

SEQUENCE LISTING

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BOULTER, Jonathan Michael

<120> Multivalent T Cell Receptor Complexes

<130> 102286.410

<140> US 09/334,969

<141> 1999-06-17

<150> PCT/GB99 01583

<151> 1999-05-19

<150> GB 9810759.2

<151> 1998-05-19

<150> GB 9821129.5

<151> 1998-09-29

<160> 85

<170> PatentIn Ver. 2.1

<210> 1

<211> 744

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene coding
for human HLA-A2/flu matrix peptide restricted
JM22 TCR alpha chain fused to c-jun leucine zipper
domain.

<400> 1

```

atgcaactac tagaa1ca2aag tcctcagttt ctaagcatcc aagagggaga aaatctcact 60
gtgtactgca actcctcaag tgttttttcc agcttacaat ggtacagaca ggagcctggg 120
gaaggtcctg tctcctcgtg gacagtagtt acgggtggag aagtgaagaa gctgaagaga 180
ctaacccttc agtttggtga tgcaagaaag gacagttctc tccacatcac tgcggcccag 240
cctggtgata caggcctcta cctctgtgca ggagcgggaa gccaaaggaa tctcatcttt 300
ggaaaaggca ctaaactctc tgtaaacca aatatccaga accctgaccc tgcctgttac 360
cagctgagag actctaaatc cagtgacaag tctgtctgcc tattcaccga ttttgattct 420
caaacaaatg tgtcaca4aag taaggattct gatgtgtata tcacagacaa aactgtgcta 480
gacatgaggt ctatggactt caagagcaac agtgctgtgg cctggagcaa caaatctgac 540
tttgcatgtg caaacgcctt caacaacagc attattccag aagacacctt cttccccagc 600
ccagaaagt7 cccccggggg tagaatcgcc cggctggagg aaaaagt8gaa aaccttgaaa 660
gctcagaact cggagctggc gtccacggcc aacatgctca gggaacaggt ggcacagctt 720
aaacagaaa9g tcatgaacta ctag                                     744

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210> 2

<211> 247

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid sequence of human HLA-A2/flu matrix peptide restricted JM22 TCR alpha chain fused to c-jun leucine zipper domain.

<400> 2

Met Gln Leu Leu Glu Gln Ser Pro Gln Phe Leu Ser Ile Gln Glu Gly
1 5 10 15

Glu Asn Leu Thr Val Tyr Cys Asn Ser Ser Ser Val Phe Ser Ser Leu
20 25 30

Gln Trp Tyr Arg Gln Glu Pro Gly Glu Gly Pro Val Leu Leu Val Thr
35 40 45

Val Val Thr Gly Gly Glu Val Lys Lys Leu Lys Arg Leu Thr Phe Gln
50 55 60

Phe Gly Asp Ala Arg Lys Asp Ser Ser Leu His Ile Thr Ala Ala Gln
65 70 75 80

Pro Gly Asp Thr Gly Leu Tyr Leu Cys Ala Gly Ala Gly Ser Gln Gly
85 90 95

Asn Leu Ile Phe Gly Lys Gly Thr Lys Leu Ser Val Lys Pro Asn Ile
100 105 110

Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser Ser
115 120 125

Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn Val
130 135 140

Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr Val Leu
145 150 155 160

Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala Trp Ser
165 170 175

Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile
180 185 190

Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly Gly Arg
195 200 205

Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn Ser
210 215 220

Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln Leu
225 230 235 240

Lys Gln Lys Val Met Asn Tyr

<210> 3
 <211> 864
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene coding
 for human HLA-A2/flu matrix peptide restricted
 JM22 TCR beta chain fused to c-fos leucine zipper
 domain.

<400> 3

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atgggtggatg gtggaatcac tcagtcccca aagtacctgt tcagaaagga aggacagaat 60
gtgaccctga gttgtgaaca gaatttgaac cacgatgccca tgtactggta ccgacaggac 120
ccagggcaag ggctgagatt gatctactac tcacagatag taaatgactt tcagaaagga 180
gatatagctg aagggtacag cgtctctcgg gagaagaagg aatcctttcc tctcactgtg 240
acatcggtccc aaaagaaccc gacagctttc tatctctgtg ccagtagttc gaggagctcc 300
tacgagcagt acttcggggc gggcaccagg ctcacgggtc cagaggacct gaaaaacgtt 360
ttcccaccgg aggtcgctgt gtttgaacca tcagaagcag agatctccca cccccaaaag 420
gccacactgg tgtgcctggc cacaggcttc taccocgacc acgtggagct gagctggtgg 480
gtgaatggga aggaggtgca cagtgggggtc agcacagacc cgcagcccct caaggagcag 540
cccgccctca atgactccag atactgcctg agcagccgcc tgaggggtctc ggccaccttc 600
tggcagaacc cccgcaacca ctcccgctgt caagtccagt tctacgggct ctcggagaat 660
gacgagtggg cccaggatag ggccaaacct gtcacccaga tcgtcagcgc cgaggcctgg 720
ggtagagcag accccggggg tctgactgat aactccaag cggagacaga tcaacttgaa 780
gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa ggaaaaacta 840
gagttcatcc tggcagctta ctag                                     864

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<210> 4
 <211> 287
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid
 sequence of human HLA-A2/flu matrix peptide
 restricted JM22 TCR beta chain fused to c-fos
 leucine zipper domain.

<400> 4

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Met Val Asp Gly Gly Ile Thr Gln Ser Pro Lys Tyr Leu Phe Arg Lys
  1                               5                               10                               15

Glu Gly Gln Asn Val Thr Leu Ser Cys Glu Gln Asn Leu Asn His Asp
                20                               25                               30

Ala Met Tyr Trp Tyr Arg Gln Asp Pro Gly Gln Gly Leu Arg Leu Ile
                35                               40                               45

Tyr Tyr Ser Gln Ile Val Asn Asp Phe Gln Lys Gly Asp Ile Ala Glu

```

50	55	60
Gly Tyr Ser Val Ser Arg Glu Lys Lys Glu Ser Phe Pro Leu Thr Val		
65	70	75 80
Thr Ser Ala Gln Lys Asn Pro Thr Ala Phe Tyr Leu Cys Ala Ser Ser		
	85	90 95
Ser Arg Ser Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr		
	100	105 110
Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val Phe		
	115	120 125
Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val		
	130	135 140
Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp Trp		
	145	150 155 160
Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro		
	165	170 175
Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser		
	180	185 190
Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe		
	195	200 205
Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr		
	210	215 220
Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp		
	225	230 235 240
Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr		
	245	250 255
Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn		
	260	265 270
Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr		
	275	280 285

<210> 5

<211> 918

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene coding
for human HLA-A2/flu matrix peptide restricted
JM22 TCR beta chain fused to c-fos leucine zipper

domain and BirA biotinylation tag.

```
<400> 5
atggtggatg gtggaatcac tcagtcccca aagtacctgt tcagaaagga aggacagaat 60
gtgaccctga gttgtgaaca gaatttgaac cacgatgcca tgtactggta cgcacaggac 120
ccagggcaag ggctgagatt gatctactac tcacagatag taaatgactt tcagaaagga 180
gatatagctg aagggtacag cgtctctcgg gagaagaagg aatcctttcc tctcactgtg 240
acatcgggccc aaaagaaccc gacagctttc tatctctgtg ccagtagttc gaggagctcc 300
tacgagcagt acttcggggc gggcaccagg ctcacggtca cagaggacct gaaaaacgtt 360
ttcccacccg aggtcgctgt gtttgaacca tcagaagcag agatctccca caccacaaag 420
gccacactgg tgtgcctggc cacaggcttc taccocgacc acgtggagct gagctggtgg 480
gtgaatggga aggaggtgca cagtgggggtc agcacagacc cgcagcccct caaggagcag 540
cccgcctca atgactccag atactgcctg agcagccgcc tgaggggtctc ggccaccttc 600
tggcagaacc cccgcaacca cttccgctgt caagtccagt tctacgggct ctcggagaaat 660
gacgagtggg cccaggatag ggccaaacct gtcacccaga tcgtcagcgc cgaggcctgg 720
ggtagagcag accccggggg tctgactgat aactccaag cggagacaga tcaacttgaa 780
gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa ggaaaaacta 840
gagttcatcc tggcagctta cggatccggg ggtgggtctga acgatatttt tgaagctcag 900
aaaatcgaat ggcattaa                                     918
```

```
<210> 6
<211> 305
<212> PRT
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Amino acid
sequence of human HLA-A2/flu matrix peptide
restricted JM22 TCR beta chain fused to c-fos
leucine zipper domain and BirA biotinylation tag.
```

```
<400> 6
Met Val Asp Gly Gly Ile Thr Gln Ser Pro Lys Tyr Leu Phe Arg Lys
 1             5             10             15

Glu Gly Gln Asn Val Thr Leu Ser Cys Glu Gln Asn Leu Asn His Asp
 20             25             30

Ala Met Tyr Trp Tyr Arg Gln Asp Pro Gly Gln Gly Leu Arg Leu Ile
 35             40             45

Tyr Tyr Ser Gln Ile Val Asn Asp Phe Gln Lys Gly Asp Ile Ala Glu
 50             55             60

Gly Tyr Ser Val Ser Arg Glu Lys Lys Glu Ser Phe Pro Leu Thr Val
 65             70             75             80

Thr Ser Ala Gln Lys Asn Pro Thr Ala Phe Tyr Leu Cys Ala Ser Ser
 85             90             95

Ser Arg Ser Ser Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu Thr
100            105            110

Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val Phe
```

115	120	125
Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val		
130	135	140
Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp Trp		
145	150	155 160
Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln Pro		
165	170	175
Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser		
180	185	190
Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe		
195	200	205
Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr		
210	215	220
Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp		
225	230	235 240
Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr		
245	250	255
Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn		
260	265	270
Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr Gly		
275	280	285
Ser Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp		
290	295	300
His		
305		

<210> 7
 <211> 750
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Gene coding
 for human HLA-A2/HTLV-1 Tax peptide restricted TCR
 alpha chain from clone A6 fused to c-jun leucine
 zipper domain.

<400> 7
 atgcagaagg aagtgaggca gaactctgga cccctcagtg ttccagaggg agccattgcc 60
 tctctcaact gcaactacag tgaccgaggt tcccagtcct tcttctggta cagacaatat 120
 tctgggaaaa gccctgagtt gataatgtcc atatactcca atggtgacaa agaagatgga 180

```

aggtttacag cacagctcaa taaagccagc cagtatgttt ctctgctcat cagagactcc 240
cagccccagtg attcagccac ctacctctgt gccgttacaa ctgacagctg ggggaaattg 300
cagtttggag cagggaccca ggttgtggtc accccagata tccagaacct tgacctgcc 360
gtgtaccagc tgagagactc taaatccagt gacaagtctg tctgcctatt caccgatttt 420
gattctcaaa caaatgtgtc acaaagtaag gattctgatg tgtatatcac agacaaaact 480
gtgctagaca tgaggtctat ggacttcaag agcaacagtg ctgtggcctg gagcaacaaa 540
tctgactttg catgtgcaaa cgccttcaac aacagcatta ttccagaaga caccttcttc 600
cccagcccag aaagttcccc cgggggtaga atcgcccggc tggaggaaaa agtgaaaacc 660
ttgaaagctc agaactcgga gctggcgctc acggccaaca tgctcaggga acaggtggca 720
cagcttaaac agaaagtcag gaactactag 750

```

<210> 8

<211> 249

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid
sequence of human HLA-A2/HTLV-1 Tax peptide
restricted TCR alpha chain from clone A6 fused to
c-jun leucine zipper domain.

<400> 8

```

Met Gln Lys Glu Val Glu Gln Asn Ser Gly Pro Leu Ser Val Pro Glu
  1                      5                      10                      15

```

```

Gly Ala Ile Ala Ser Leu Asn Cys Thr Tyr Ser Asp Arg Gly Ser Gln
                20                      25                      30

```

```

Ser Phe Phe Trp Tyr Arg Gln Tyr Ser Gly Lys Ser Pro Glu Leu Ile
    35                      40                      45

```

```

Met Ser Ile Tyr Ser Asn Gly Asp Lys Glu Asp Gly Arg Phe Thr Ala
    50                      55                      60

```

```

Gln Leu Asn Lys Ala Ser Gln Tyr Val Ser Leu Leu Ile Arg Asp Ser
    65                      70                      75                      80

```

```

Gln Pro Ser Asp Ser Ala Thr Tyr Leu Cys Ala Val Thr Thr Asp Ser
                85                      90                      95

```

```

Trp Gly Lys Leu Gln Phe Gly Ala Gly Thr Gln Val Val Val Thr Pro
    100                      105                      110

```

```

Asp Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys
    115                      120                      125

```

```

Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr
    130                      135                      140

```

```

Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr
    145                      150                      155                      160

```

```

Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala

```

	165		170		175
Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser					
	180		185		190
Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly					
	195		200		205
Gly Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln					
	210		215		220
Asn Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala					
	225		230		235
					240
Gln Leu Lys Gln Lys Val Met Asn Tyr					
	245				

<210> 9
 <211> 928
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Gene coding
 for human HLA-A2/HTLV-1 Tax peptide restricted TCR
 beta chain from clone A6 fused to c-fos leucine
 zipper domain and BirA biotinylation tag.

<400> 9
 atgaacgctg gtgtcactca gacccccaaaa ttccaggtcc tgaagacagg acagagcatg 60
 aactgcagt gtgccagga tatgaacat gaatacatgt cctggtatcg acaagacca 120
 ggcattggggc tgaggctgat tcattactca gttggtgctg gtatcactga ccaaggagaa 180
 gtccccaatg gctacaatgt ctccagatca accacagagg atttcccgtc caggctgctg 240
 tcggctgctc cctcccagac atctgtgtac ttctgtgcca gcaggccggg actagcggga 300
 gggcgaccag agcagtactt cgggcccggc accaggctca cggtcacaga ggacctgaaa 360
 aacgtgttcc caccgaggt cgctgtgttt gagccatcag aagcagagat ctcccacacc 420
 caaaaggcca cactggtgtg cctggccaca ggcttctacc cgcaccacgt ggagctgagc 480
 tgggtgggtga atgggaagga ggtgcacagt ggggtcagca cagaccgcga gcccctcaag 540
 gagcagcccg ccctcaatga ctccagatac gctctgagca gccgcctgag ggtctcggcc 600
 accttctggc agaacccccg caaccacttc cgctgtcaag tccagttcta cgggctctcg 660
 gagaatgacg agtggaccca ggatagggcc aaacctgtca cccagatcgt cagcgccgag 720
 gcctggggta gagcagaccc cgggggtctg actgatacac tccaagcgga gacagatcaa 780
 cttgaagaca agaagtctgc gttgcagacc gagattgcca atctactgaa agagaaggaa 840
 aaactagagt tcattcctggc agcttacgga tccgggtggtg gtctgaacga tatttttgaa 900
 gctcagaaaa tcgaatggca ttaagctt 928

<210> 10
 <211> 307
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Amino acid
sequence of human HLA-A2/HTLV-1 Tax peptide
restricted TCR beta chain from clone A6 fused to
c-fos leucine zipper domain and BirA biotinylation
tag.

<400> 10

Met	Asn	Ala	Gly	Val	Thr	Gln	Thr	Pro	Lys	Phe	Gln	Val	Leu	Lys	Thr
1				5					10					15	
Gly	Gln	Ser	Met	Thr	Leu	Gln	Cys	Ala	Gln	Asp	Met	Asn	His	Glu	Tyr
			20					25					30		
Met	Ser	Trp	Tyr	Arg	Gln	Asp	Pro	Gly	Met	Gly	Leu	Arg	Leu	Ile	His
		35					40					45			
Tyr	Ser	Val	Gly	Ala	Gly	Ile	Thr	Asp	Gln	Gly	Glu	Val	Pro	Asn	Gly
	50					55					60				
Tyr	Asn	Val	Ser	Arg	Ser	Thr	Thr	Glu	Asp	Phe	Pro	Leu	Arg	Leu	Leu
	65				70					75					80
Ser	Ala	Ala	Pro	Ser	Gln	Thr	Ser	Val	Tyr	Phe	Cys	Ala	Ser	Arg	Pro
				85					90					95	
Gly	Leu	Ala	Gly	Gly	Arg	Pro	Glu	Gln	Tyr	Phe	Gly	Pro	Gly	Thr	Arg
		100						105					110		
Leu	Thr	Val	Thr	Glu	Asp	Leu	Lys	Asn	Val	Phe	Pro	Pro	Glu	Val	Ala
		115					120					125			
Val	Phe	Glu	Pro	Ser	Glu	Ala	Glu	Ile	Ser	His	Thr	Gln	Lys	Ala	Thr
	130					135					140				
Leu	Val	Cys	Leu	Ala	Thr	Gly	Phe	Tyr	Pro	Asp	His	Val	Glu	Leu	Ser
145					150					155					160
Trp	Trp	Val	Asn	Gly	Lys	Glu	Val	His	Ser	Gly	Val	Ser	Thr	Asp	Pro
			165						170					175	
Gln	Pro	Leu	Lys	Glu	Gln	Pro	Ala	Leu	Asn	Asp	Ser	Arg	Tyr	Ala	Leu
		180						185					190		
Ser	Ser	Arg	Leu	Arg	Val	Ser	Ala	Thr	Phe	Trp	Gln	Asn	Pro	Arg	Asn
		195					200					205			
His	Phe	Arg	Cys	Gln	Val	Gln	Phe	Tyr	Gly	Leu	Ser	Glu	Asn	Asp	Glu
	210					215				220					
Trp	Thr	Gln	Asp	Arg	Ala	Lys	Pro	Val	Thr	Gln	Ile	Val	Ser	Ala	Glu
225					230					235					240
Ala	Trp	Gly	Arg	Ala	Asp	Pro	Gly	Gly	Leu	Thr	Asp	Thr	Leu	Gln	Ala
			245						250					255	

Glu Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile
260 265 270

Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala
275 280 285

Tyr Gly Ser Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile
290 295 300

Glu Trp His
305

<210> 11
<211> 765
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Gene coding
forhuman HLA-A2/HTLV-1 Tax peptide restricted TCR
alpha chain from clone M10B7/D3 fused to c-jun
leucine zipper domain.

<400> 11
atgcaacaga agaatgatga ccagcaagtt aagcaaaatt caccatccct gagcgtccag 60
gaaggaagaa tttctattct gaactgtgac tatactaaca gcatgtttga ttatttccta 120
tggtacaaaa aataccctgc tgaaggtcct acatttctga tatctataag ttccattaag 180
gataaaaatg aagatggaag attcactgtc ttcttaaaca aaagtgccaa gcacctctct 240
ctgcacattg tgccctccca gcctggagac tctgcagtgt acttctgtgc agcaatggag 300
ggagcccaga agctggtatt tggccaagga accaggctga ctatcaacc aaatatccag 360
aaccctgacc ctgccgtgta ccagctgaga gactctaaat ccagtgacaa gtctgtctgc 420
ctattcaccg attttgattc tcaaacaaat gtgtcacaaa gtaaggattc tgatgtgtat 480
atcacagaca aaactgtgct agacatgagg tctatggact tcaagagcaa cagtgtgtgt 540
gcctggagca acaaatctga ctttgcatgt gcaaacgcct tcaacaacag cattattcca 600
gaagacacct tcttccccag ccagaaaagt tccccgggg gtagaatcgc ccggtggag 660
gaaaaagtga aaaccttgaa agctcagaac tggagctgg cgtccacggc caacatgctc 720
agggaaacagg tggcacagct taaacagaaa gtcatgaact actag 765

<210> 12
<211> 254
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Amino acid
sequence of human HLA-A2/HTLV-1 Tax peptide
restricted TCR alpha chain from clone M10B7/D3
fused to c-jun leucine zipper domain

<400> 12
Met Gln Gln Lys Asn Asp Asp Gln Gln Val Lys Gln Asn Ser Pro Ser
1 5 10 15

Leu	Ser	Val	Gln	Glu	Gly	Arg	Ile	Ser	Ile	Leu	Asn	Cys	Asp	Tyr	Thr			
			20					25					30					
Asn	Ser	Met	Phe	Asp	Tyr	Phe	Leu	Trp	Tyr	Lys	Lys	Tyr	Pro	Ala	Glu			
		35					40					45						
Gly	Pro	Thr	Phe	Leu	Ile	Ser	Ile	Ser	Ser	Ile	Lys	Asp	Lys	Asn	Glu			
	50					55					60							
Asp	Gly	Arg	Phe	Thr	Val	Phe	Leu	Asn	Lys	Ser	Ala	Lys	His	Leu	Ser			
	65				70					75					80			
Leu	His	Ile	Val	Pro	Ser	Gln	Pro	Gly	Asp	Ser	Ala	Val	Tyr	Phe	Cys			
				85					90						95			
Ala	Ala	Met	Glu	Gly	Ala	Gln	Lys	Leu	Val	Phe	Gly	Gln	Gly	Thr	Arg			
		100						105					110					
Leu	Thr	Ile	Asn	Pro	Asn	Ile	Gln	Asn	Pro	Asp	Pro	Ala	Val	Tyr	Gln			
	115						120					125						
Leu	Arg	Asp	Ser	Lys	Ser	Ser	Asp	Lys	Ser	Val	Cys	Leu	Phe	Thr	Asp			
	130					135					140							
Phe	Asp	Ser	Gln	Thr	Asn	Val	Ser	Gln	Ser	Lys	Asp	Ser	Asp	Val	Tyr			
145					150					155					160			
Ile	Thr	Asp	Lys	Thr	Val	Leu	Asp	Met	Arg	Ser	Met	Asp	Phe	Lys	Ser			
			165					170						175				
Asn	Ser	Ala	Val	Ala	Trp	Ser	Asn	Lys	Ser	Asp	Phe	Ala	Cys	Ala	Asn			
		180						185					190					
Ala	Phe	Asn	Asn	Ser	Ile	Ile	Pro	Glu	Asp	Thr	Phe	Phe	Pro	Ser	Pro			
		195					200					205						
Glu	Ser	Ser	Pro	Gly	Gly	Arg	Ile	Ala	Arg	Leu	Glu	Glu	Lys	Val	Lys			
	210					215					220							
Thr	Leu	Lys	Ala	Gln	Asn	Ser	Glu	Leu	Ala	Ser	Thr	Ala	Asn	Met	Leu			
225					230					235					240			
Arg	Glu	Gln	Val	Ala	Gln	Leu	Lys	Gln	Lys	Val	Met	Asn	Tyr					
			245					250										

<210> 13

<211> 925

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Gene coding
for human HLA-A2/HTLV-1 Tax peptide restricted TCR

beta chain from clone M10B7/D3 fused to c-fos
leucine zipper domain and BirA biotinylation tag.

<400> 13

```

atgaacgctg gtgtcactca gacccccaaaa ttccaggtcc tgaagacagg acagagcatg 60
acactgcagt gtgcccagga tatgaacccat gaatacatgt cctgggtatcg acaagaccca 120
ggcatggggc tgaggctgat tcattactca gttggtgctg gtatcactga ccaaggagaa 180
gtccccaatg gctacaatgt ctccagatca accacagagg atttcccgtc caggetgctg 240
tcggctgctc cctcccagac atctgtgtac ttctgtgcca gcagttacca ggaggggggg 300
ttttacgagc agtacttcgg gccgggcacc aggtcacagg tcacagagga cctgaaaaac 360
gtgttcccac ccgaggctgc tgtgtttgag ccatcagaag cagagatctc ccacacccaa 420
aaggccacac tgggtgtgcct ggccacaggc ttctaccccg accacgtgga gctgagctgg 480
tgggtgaatg ggaaggaggt gcacagtggg gtcagcacag acccgagacc cctcaaggag 540
cagcccgccc tcaatgactc cagatacgtc ctgagcagcc gcctgagggt ctcgccacc 600
ttctggcagg acccccgcaa ccacttcgcg tgtcaagtcc agttctacgg gctctcggag 660
aatgacgagt ggacccagga tagggccaaa cccgtcacc agatcgtcag cgccgaggcc 720
tggggtagag cagaccccgg gggctctgact gatacactcc aagcggagac agatcaactt 780
gaagacaaga agtctgcgtt gcagaccgag attgccaatc tactgaaaga gaaggaaaaa 840
ctagagttca tcttggcagc ttacggatcc ggtgggtggtc tgaacgatat ttttgaagct 900
cagaaaatcg aatggcatta agctt 925

```

<210> 14

<211> 306

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid
sequence of human HLA-A2/HTLV-1 Tax peptide
restricted TCR beta chain from cloneM10B7/D3 fused
to c-fos leucine zipper domain and BirA
biotinylation tag.

<400> 14

```

Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln Val Leu Lys Thr
  1                      5                      10                      15

Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr
      20                      25                      30

Met Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His
      35                      40                      45

Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly
      50                      55                      60

Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu
      65                      70                      75                      80

Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Ser Tyr
      85                      90                      95

Pro Gly Gly Gly Phe Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu
      100                      105                      110

```

Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val
 115 120 125
 Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu
 130 135 140
 Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp
 145 150 155 160
 Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln
 165 170 175
 Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu Ser
 180 185 190
 Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asp Pro Arg Asn His
 195 200 205
 Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp
 210 215 220
 Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala
 225 230 235 240
 Trp Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu
 245 250 255
 Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala
 260 265 270
 Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr
 275 280 285
 Gly Ser Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu
 290 295 300
 Trp His
 305

<210> 15

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Forward poly-C
 "anchor" primer for PCR amplification of cDNAs
 extended at their 3'-terminal with a stretch of
 G-residues using Terminal Transferase.

<400> 15

taaataactcg aggcgcgcc ccccccccc ccc

33

<210> 16
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Human TCR
alpha chain constant region 3'-specific PCR
primer.

<400> 16
atataacccg gggaaccaga tccccacagg aactttctgg gctgggga

48

<210> 17
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Human TCR beta
chain constant region 3'-specific PCR primer.

<400> 17
atataacccg gggaaccaga tccccacagt ctgctctacc ccaggcc

47

<210> 18
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Human c-jun
leucine zipper 5'-specific PCR primer.

<400> 18
catacaccg ggggtagaat cgcccggtg gag

33

<210> 19
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Human c-jun
leucine zipper 3'-specific PCR primer.

<400> 19
gtgtgtgtc gaggatccta gtagttcatg actttctgtt taagctgtgc

50

<210> 20
<211> 39

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Human c-fos
 leucine zipper 5'-specific PCR primer.

 <400> 20
 catacacccg ggggtctgac tgatacactc caagcggag 39

 <210> 21
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Human c-fos
 leucine zipper 3'-specific PCR primer.

 <400> 21
 tgtgtgctcg aggatcctag taagctgccg ggatgaactc tagtttttc 49

 <210> 22
 <211> 120
 <212> DNA
 <213> Homo sapiens

 <220>
 <223> Partial human c-jun sequence coding for the
 leucine zipper domain as fused to TCR alpha
 chains.

 <400> 22
 agaatcgccc ggctggagga aaaagtgaaa accttgaaa ctcagaaactc ggagctggcg 60
 tccacggcca acatgctcag ggaacaggtg gcacagctta aacagaaagt catgaactac 120

 <210> 23
 <211> 120
 <212> DNA
 <213> Homo sapiens

 <220>
 <223> Partial human c-fos sequence coding for the
 leucine zipper domain as fused to TCR beta chains.

 <400> 23
 ctgactgata cactccaagc ggagacagac caactagaag atgagaagtc tgctttgcag 60
 accgagattg ccaacctgct gaaggagaag gaaaaactag agttcatcct ggcagcttac 120

 <210> 24
 <211> 40

<212> PRT
<213> Homo sapiens

<220>
<223> c-jun leucine zipperdomain amino acid sequence as
fused to TCR alpha chains.

<400> 24
Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn
1 5 10 15
Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln
20 25 30
Leu Lys Gln Lys Val Met Asn Tyr
35 40

<210> 25
<211> 40
<212> PRT
<213> Homo sapiens

<220>
<223> c-fos leucine zipper domain amino acid sequence as
fused to TCR beta chains.

<400> 25
Leu Thr Asp Thr Leu Gln Ala Glu Thr Asp Gln Leu Glu Asp Glu Lys
1 5 10 15
Ser Ala Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu Lys Glu Lys
20 25 30
Leu Glu Phe Ile Leu Ala Ala Tyr
35 40

<210> 26
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Forward PCR
primer for mutating the unpaired cysteine of human
TCR beta chains to serine.

<400> 26
gactccagat acagcctgag cagccg

26

<210> 27

<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Partial amino acid sequence of the human TCR beta chain after mutating the unpaired cysteine to serine.

<400> 27
Asp Ser Arg Tyr Ser Leu Ser Ser
1 5

<210> 28
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Reverse PCR primer for mutating the unpaired cysteine of human TCR beta chains to serine.

<400> 28
cggctgctca ggctgtatct ggagtc 26

<210> 29
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Forward PCR primer for mutating the unpaired cysteine of human TCR beta chains to alanine.

<400> 29
gactccagat acgctctgag cagccg 26

<210> 30
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Partial amino acid sequence of the human TCR beta chain after mutating the unpaired cysteine to alanine.

<400> 30
Asp Ser Arg Tyr Ala Leu Ser Ser

<210> 31
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Reverse PCR
 primer for mutating the unpaired cysteine of human
 TCR beta chains to alanine.

<400> 31
 cggctgctca gagcgatatct ggagtc

26

<210> 32
 <211> 57
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: 5' PCR primer
 for the human v aplha10.2 chain of the JM22
 Influenza matrix protein peptide/HLA-A0201
 restricted TCR.

<400> 32
 gctctagaca tatgcaacta ctagaacaaa gtcttcagtt tctaagcatc caagagg

57

<210> 33
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: New N-terminal
 amino acid sequence of truncated Valpha10.2 chain
 of the JM22 Influenza Matrix protein
 peptide/HLA-A0201 restricted TCR.

<400> 33
 Met Gln Leu Leu Glu Gln Ser Pro Gln Phe Leu Ser Ile Gln Glu
 1 5 10 15

<210> 34
 <211> 39
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 5' PCR primer
for amplification of the human Vbeta17 chain of
the JM22 Influenza matrix peptide/HLA-A0201
restricted TCR.

<400> 34

gctctagaca tatggtggat ggtggaatca ctcagtc

39

<210> 35

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: New
N-terminal amino acid sequence of the truncated
Vbeta17 chain of the human JM22 Influenza Matrix
peptide/HLA-A0201 restricted TCR.

<400> 35

Met Val Asp Gly Gly Ile Thr Gln Ser

1

5

<210> 36

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 5' PCR primer
for amplification of the mouse Valpha4 chain of
the Influenza virus nucleoprotein peptide/H2-Db
restricted TCR.

<400> 36

gctctagaca tatggattct gttactcaaa tgcaagggtca agtgaccctc tcattcag

57

<210> 37

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: New N-terminal
amino acid sequence of truncated Valpha4 chain of
the mouse Influenza virus nucleoprotein
peptide/H2-Db restricted TCR.

<400> 37

Met Asp Ser Val Thr Gln Met Gln Gly Gln Val Thr Leu Ser Ser

1

5

10

15

<210> 38

<211> 53

<212> DNA

<213> Mus musculus

<220>

<223> 5' PCR primer for amplification of the mouse
Vbeta11 chain of the Influenza nucleoprotein
peptide/H2-Db restricted TCR.

<400> 38

gctctagaca tatggaacca acaaatgctg gtgttatcca aacacctagg cac

53

<210> 39

<211> 14

<212> PRT

<213> Mus musculus

<220>

<223> New N-terminal amino acid sequence of truncated
Vbeta11 chain of the mouse Influenza virus
nucleoprotein peptide/H2-Db restricted TCR.

<400> 39

Met Glu Pro Thr Asn Ala Gly Val Ile Gln Thr Pro Arg His

1

5

10

<210> 40

<211> 36

<212> DNA

<213> Homo sapiens

<220>

<223> 5' PCR primer for amplification of the human
Valpha23 chain of the HIV-1 Gag peptide/HLA-A0201
restricted TCR.

<400> 40

ggaattccat atgaaacaag aggttacaca aattcc

36

<210> 41

<211> 8

<212> PRT

<213> Homo sapiens

<220>

<223> New N-terminal amino acid sequence of truncated

human Valpha23 chain of the HIV-1 Gag
peptide/HLA-A0201 restricted TCR.

<400> 41

Met Lys Gln Glu Val Thr Gln Ile

1

5

<210> 42

<211> 36

<212> DNA

<213> Homo sapiens

<220>

<223> 5' PCR primer for amplification of the human
Vbeta5.1 chain of the HIV-1 Gag peptide/HLA-A0201
restricted TCR.

<400> 42

ggaattccat atgaaagctg gagttactca aactcc

36

<210> 43

<211> 8

<212> PRT

<213> Homo sapiens

<220>

<223> New N-terminal amino acid sequence of truncated
human Vbeta5.1 chain of the HIV-1 Gag
peptide/HLA-A0201 restricted TCR.

<400> 43

Met Lys Ala Gly Val Thr Gln Thr

1

5

<210> 44

<211> 33

<212> DNA

<213> Homo sapiens

<220>

<223> 5' PCR primer for amplification of the human
Valpha2.3 chain of the HTLV-1 Tax
peptide/HLA-A0201 restricted A6 TCR.

<400> 44

cccccccata tgcagaagga agtggagcag aac

33

<210> 45

<211> 8

<212> PRT
<213> Homo sapiens

<220>
<223> New N-terminal amino acid sequence of truncated
human Valpha2.3 chain of the HTLV-1 Tax
peptide/HLA-A0201 restricted A6 TCR.

<400> 45
Met Gln Lys Glu Val Glu Gln Lys
1 5

<210> 46
<211> 33
<212> DNA
<213> Homo sapiens

<220>
<223> 5' PCR primer for amplification of the human
Vbeta12.3 chain of the HTLV-1 Tax
peptide/HLA-A0201 restricted A6 TCR.

<400> 46
ccccccata tgaacgctgg tgcactcag acc

33

<210> 47
<211> 8
<212> PRT
<213> Homo sapiens

<220>
<223> New N-terminal amino acid sequence of truncated
human Vbeta12.3 chain of the HTLV-1 Tax
peptide/HLA-A0201 restricted A6 TCR

<400> 47
Met Lys Ala Gly Val Thr Gln Thr
1 5

<210> 48
<211> 48
<212> DNA
<213> Homo sapiens

<220>
<223> 5' PCR primer for amplification of the human
Valpha17.2 chain of the HTLV-1 Tax
peptide/HLA-A0201 restricted B7 TCR.

<400> 48

ccccccata tgcaacaaaa aaatgatgac cagcaagtta agcaaaat

48

<210> 49

<211> 13

<212> PRT

<213> Homo sapiens

<220>

<223> New N-terminal amino acid sequence of truncated
human Valpha17.2 chain of the HTLV-1 Tax
peptide/HLA-A0201 restricted B7 TCR

<400> 49

Met Gln Gln Lys Asn Asp Asp Gln Gln Val Lys Gln Asn
1 5 10

<210> 50

<211> 45

<212> DNA

<213> Homo sapiens

<220>

<223> 5' PCR primer for amplification of the human
Vbeta12.3 chain of the HTLV-1 Tax
peptide/HLA-A0201 restricted B7 TCR.

<400> 50

ccccccata tgaacgctgg tgtcactcag accccaaaat tccag

45

<210> 51

<211> 12

<212> PRT

<213> Homo sapiens

<220>

<223> New N-terminal amino acid sequence of truncated
human Vbeta12.3 chain of the HTLV-1 Tax
peptide/HLA-A0201 restricted B7 TCR

<400> 51

Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln
1 5 10

<210> 52

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<223> 3' PCR primer for the human Calpha chains,
generally applicable.

<400> 52

catacacccg ggggaacttt ctgggctggg gaagaagg

38

<210> 53

<211> 33

<212> DNA

<213> Homo sapiens

<220>

<223> 3' PCR primer for human Cbeta chains, generally
applicable.

<400> 53

catacacccg gggctctgctc taccccaggc etc

33

<210> 54

<211> 744

<212> DNA

<213> Homo sapiens

<220>

<223> Mutated DNA sequence of soluble HLA-A2/flu matrix
restricted TCR alpha chain from JM22, as fused to
the leucine zipper domain of human c-jun.

<400> 54

atgcaactac tagaacaaag tcctcagttt ctaagcatcc aagagggaga aaatctcact 60
gtgtactgca actcctcaag tgttttttcc agcttacaat ggtacagaca ggagcctggg 120
gaagggtcctg tcctcctggg gacagtagtt acgggtggag aagtgaagaa gctgaagaga 180
ctaacctttc agtttggtga tgcaagaaag gacagttctc tccacatcac tgcggcccag 240
cctgggtgata caggcctcta cctctgtgca ggagcgggaa gccaaggaaa tctcatcttt 300
ggaaaaggca ctaaactctc tggttaaacca aatatccaga accctgacct tgcctgttac 360
cagctgagag actctaaatc cagtgcacag tctgtctgcc tattcaccca ttttgattct 420
caaacaaatg tgtcaciaag taaggattct gatgtgtata tcacagacaa aactgtgcta 480
gacatgaggt ctatggactt caagagcaac agtgcctgtg cctggagcaa caaatctgac 540
tttgcatgtg caaacgcctt caacaacagc attattccag aagacacctt cttccccagc 600
ccagaaagtt cccccggggg tagaatcgcc cggctggagg aaaaagtgaa aaccttgaaa 660
gtcagaact cggagctggc gtccacggcc aacatgctca gggaacaggt ggcacagctt 720
aaacagaaag tcatgaacta ctac 744

<210> 55

<211> 247

<212> PRT

<213> Homo sapiens

<220>

<223> Predicted amino acid sequence of soluble
HLA-A2/flu matrix restricted TCR alpha chain from
JM22, as fused to the leucine zipper domain of

human c-jun.

<400> 55

Met	Gln	Leu	Leu	Glu	Gln	Ser	Pro	Gln	Phe	Leu	Ser	Ile	Gln	Glu	Gly
1				5				10						15	
Glu	Asn	Leu	Thr	Val	Tyr	Cys	Asn	Ser	Ser	Ser	Val	Phe	Ser	Ser	Leu
			20					25					30		
Gln	Trp	Tyr	Arg	Gln	Glu	Pro	Gly	Glu	Gly	Pro	Val	Leu	Leu	Val	Thr
		35					40					45			
Val	Val	Thr	Gly	Gly	Glu	Val	Lys	Lys	Leu	Lys	Arg	Leu	Thr	Phe	Gln
	50					55					60				
Phe	Gly	Asp	Ala	Arg	Lys	Asp	Ser	Ser	Leu	His	Ile	Thr	Ala	Ala	Gln
65					70					75					80
Pro	Gly	Asp	Thr	Gly	Leu	Tyr	Leu	Cys	Ala	Gly	Ala	Gly	Ser	Gln	Gly
				85					90					95	
Asn	Leu	Ile	Phe	Gly	Lys	Gly	Thr	Lys	Leu	Ser	Val	Lys	Pro	Asn	Ile
			100					105					110		
Gln	Asn	Pro	Asp	Pro	Ala	Val	Tyr	Gln	Leu	Arg	Asp	Ser	Lys	Ser	Ser
		115					120					125			
Asp	Lys	Ser	Val	Cys	Leu	Phe	Thr	Asp	Phe	Asp	Ser	Gln	Thr	Asn	Val
	130					135					140				
Ser	Gln	Ser	Lys	Asp	Ser	Asp	Val	Tyr	Ile	Thr	Asp	Lys	Thr	Val	Leu
145					150					155					160
Asp	Met	Arg	Ser	Met	Asp	Phe	Lys	Ser	Asn	Ser	Ala	Val	Ala	Trp	Ser
				165					170					175	
Asn	Lys	Ser	Asp	Phe	Ala	Cys	Ala	Asn	Ala	Phe	Asn	Asn	Ser	Ile	Ile
			180					185					190		
Pro	Glu	Asp	Thr	Phe	Phe	Pro	Ser	Pro	Glu	Ser	Ser	Pro	Gly	Gly	Arg
		195					200						205		
Ile	Ala	Arg	Leu	Glu	Glu	Lys	Val	Lys	Thr	Leu	Lys	Ala	Gln	Asn	Ser
	210					215					220				
Glu	Leu	Ala	Ser	Thr	Ala	Asn	Met	Leu	Arg	Glu	Gln	Val	Ala	Gln	Leu
225					230					235					240
Lys	Gln	Lys	Val	Met	Asn	Tyr									
				245											

<210> 56

<211> 864

<212> DNA
<213> Homo sapiens

<220>

<223> DNA sequence of soluble soluble HLA-A2/flu matrix
restricted TCR Beta chain from JM22, as fused to
the leucine zipper domain of human c-fos.

<400> 56

```
atggtggatg gtggaatcac tcagtcccca agtacctgt tcagaaagga aggacagaat 60
gtgaccctga gttgtgaaca gaatttgaac cacgatgcca tgtactggta cgcacaggac 120
ccagggcaag ggctgagatt gatctactac tcacagatag taaatgactt tcagaaagga 180
gatatagctg aagggtacag cgtctctcgg gagaagaagg aatcctttcc tctcactgtg 240
acatcgcccc aaaagaaccc gacagctttc tatctctgtg ccagtagttc gaggagctcc 300
tacgagcagt acttcggggc gggcaccagg ctcacgggtc cagaggacct gaaaaacgtt 360
ttcccacccg aggtcgctgt gtttgaacca tcagaagcag agatctccca caccctaaaag 420
gccacactgg tgtgctggc cacaggttc taccocgacc acgtggagct gagctgggtg 480
gtgaatggga aggaggtgca cagtgggggtc agcacagacc cgcagcccct caaggagcag 540
cccgccctca atgactccag atactgcctg agcagccgcc tgaggggtctc ggccaccttc 600
tggcagaacc cccgcaacca cttccgctgt caagtccagt tctacgggct ctcggagaat 660
gacgagtgga cccaggatag ggccaaacct gtcacccaga tcgtcagcgc cgaggcctgg 720
ggtagagcag accccggggg tctgactgat acactccaag cggagacaga tcaacttgaa 780
gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa ggaaaaacta 840
gagttcatcc tggcagctta ctag 864
```

<210> 57
<211> 287
<212> PRT
<213> Homo sapiens

<220>

<223> Predicted amino acid sequence of soluble
HLA-A2/flu matrix restricted TCR Beta chain from
JM22, as fused to the leucine zipper domain of
human c-fos.

<400> 57

```
Met Val Asp Gly Gly Ile Thr Gln Ser Pro Lys Tyr Leu Phe Arg Lys
 1             5             10            15

Glu Gly Gln Asn Val Thr Leu Ser Cys Glu Gln Asn Leu Asn His Asp
      20            25            30

Ala Met Tyr Trp Tyr Arg Gln Asp Pro Gly Gln Gly Leu Arg Leu Ile
      35            40            45

Tyr Tyr Ser Gln Ile Val Asn Asp Phe Gln Lys Gly Asp Ile Ala Glu
      50            55            60

Gly Tyr Ser Val Ser Arg Glu Lys Lys Glu Ser Phe Pro Leu Thr Val
      65            70            75            80

Thr Ser Ala Gln Lys Asn Pro Thr Ala Phe Tyr Leu Cys Ala Ser Ser
      85            90            95
```

Ser	Arg	Ser	Ser	Tyr	Glu	Gln	Tyr	Phe	Gly	Pro	Gly	Thr	Arg	Leu	Thr				
																100	105	110	
Val	Thr	Glu	Asp	Leu	Lys	Asn	Val	Phe	Pro	Pro	Glu	Val	Ala	Val	Phe				
																115	120	125	
Glu	Pro	Ser	Glu	Ala	Glu	Ile	Ser	His	Thr	Gln	Lys	Ala	Thr	Leu	Val				
																130	135	140	
Cys	Leu	Ala	Thr	Gly	Phe	Tyr	Pro	Asp	His	Val	Glu	Leu	Ser	Trp	Trp				
																145	150	155	160
Val	Asn	Gly	Lys	Glu	Val	His	Ser	Gly	Val	Ser	Thr	Asp	Pro	Gln	Pro				
																165	170	175	
Leu	Lys	Glu	Gln	Pro	Ala	Leu	Asn	Asp	Ser	Arg	Tyr	Cys	Leu	Ser	Ser				
																180	185	190	
Arg	Leu	Arg	Val	Ser	Ala	Thr	Phe	Trp	Gln	Asn	Pro	Arg	Asn	His	Phe				
																195	200	205	
Arg	Cys	Gln	Val	Gln	Phe	Tyr	Gly	Leu	Ser	Glu	Asn	Asp	Glu	Trp	Thr				
																210	215	220	
Gln	Asp	Arg	Ala	Lys	Pro	Val	Thr	Gln	Ile	Val	Ser	Ala	Glu	Ala	Trp				
																225	230	235	240
Gly	Arg	Ala	Asp	Pro	Gly	Gly	Leu	Thr	Asp	Thr	Leu	Gln	Ala	Glu	Thr				
																245	250	255	
Asp	Gln	Leu	Glu	Asp	Lys	Lys	Ser	Ala	Leu	Gln	Thr	Glu	Ile	Ala	Asn				
																260	265	270	
Leu	Leu	Lys	Glu	Lys	Glu	Lys	Leu	Glu	Phe	Ile	Leu	Ala	Ala	Tyr					
																275	280	285	

<210> 58

<211> 795

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA sequence of soluble H2-Db/Influenza virus nucleoprotein restricted TCR beta chain from the murine F5 receptor, as fused to the leucine zipper domain of human c-fos.

<220>

<223> Description of Artificial Sequence: DNA sequence of soluble H2-Db/Influenza virus nucleoprotein restricted TCR beta chain from the murine F5 receptor, as fused to the leucine zipper domain of c-fos.

<400> 58
atgaactatt ctccagcttt agtgactgtg atgctgtttg tgtttgggag gacccatgga 60
gactcagtaa cccagatgca aggtcaagtg accctctcag aagacgactt cctatttata 120
aactgtactt attcaaccac atggtaccog actcttttct ggtatgtcca atatcctgga 180
gaaggtccac agctcctttt gaaagtcaca acagccaaca acaagggaat cagcagaggt 240
tttgaagcta catatgataa aggaacaacg tccttccact tgcagaaaagc ctcagtgcag 300
gagtcagact ctgctgtgta ctactgtgtg ctgggtgatc gacagggagg cagagctctg 360
atatttggaa caggaaccac ggtatcagtc agccccaaca tccagaacct agaacctgct 420
gtgtaccagt taaaagatcc tcggtctcag gacagcacc cctgcctgtt caccgacttt 480
gactcccaaa tcaatgtgcc gaaaaccatg gaatctggaa cgttcacac tgacaaaact 540
gtgctggaca tgaaagctat ggattccaag agcaatgggg ccattgcctg gagcaaccag 600
acaagcttca cctgccaaga tatctccaaa gagaccaacg ccacctacc cagttcagac 660
gttcccgagg gtagaatcgc ccggctggag gaaaaagtga aaaccttgaa agctcagaac 720
tcggagctgg cgtccacggc caacatgctc agggaaacag tggcacagct taaacagaaa 780
gtcatgaact actag 795

<210> 59
<211> 264
<212> PRT
<213> Artificial Sequence

<220>
<223> Predicted amino acid sequence of soluble
H2-Db/Influenza virus nucleoprotein restricted TCR
alpha chain from the murine F5 receptor, as fused
to the leucine zipper domain of human c-jun.

<220>
<223> Description of Artificial Sequence: Predicted amino
acid sequence of soluble H2-Db/Influenza virus
nucleoprotein restricted TCR alpha chain from the
murine F5 receptor, as fused to c-jun leucine
zipper

<400> 59
Met Asn Tyr Ser Pro Ala Leu Val Thr Val Met Leu Phe Val Phe Gly
1 5 10 15
Arg Thr His Gly Asp Ser Val Thr Gln Met Gln Gly Gln Val Thr Leu
20 25 30
Ser Glu Asp Asp Phe Leu Phe Ile Asn Cys Thr Tyr Ser Thr Thr Trp
35 40 45
Tyr Pro Thr Leu Phe Trp Tyr Val Gln Tyr Pro Gly Glu Gly Pro Gln
50 55 60
Leu Leu Leu Lys Val Thr Thr Ala Asn Asn Lys Gly Ile Ser Arg Gly
65 70 75 80
Phe Glu Ala Thr Tyr Asp Lys Gly Thr Thr Ser Phe His Leu Gln Lys
85 90 95
Ala Ser Val Gln Glu Ser Asp Ser Ala Val Tyr Tyr Cys Val Leu Gly

100	105	110
Asp Arg Gln Gly Gly Arg Ala Leu Ile Phe Gly Thr Gly Thr Thr Val		
115	120	125
Ser Val Ser Pro Asn Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu		
130	135	140
Lys Asp Pro Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe		
145	150	155 160
Asp Ser Gln Ile Asn Val Pro Lys Thr Met Glu Ser Gly Thr Phe Ile		
165	170	175
Thr Asp Lys Thr Val Leu Asp Met Lys Ala Met Asp Ser Lys Ser Asn		
180	185	190
Gly Ala Ile Ala Trp Ser Asn Gln Thr Ser Phe Thr Cys Gln Asp Ile		
195	200	205
Ser Lys Glu Thr Asn Ala Thr Tyr Pro Ser Ser Asp Val Pro Gly Gly		
210	215	220
Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn		
225	230	235 240
Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln		
245	250	255
Leu Lys Gln Lys Val Met Asn Tyr		
260		

<210> 60
 <211> 864
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:DNA sequence
 coding for soluble H2-Db/Influenza virus
 nucleoprotein restricted TCR beta chain from the
 murine F5 receptor, as fused to the c-fos leucine
 zipper.

<400> 60
 atgaaagctg gagttactca aactccaaga tatctgatca aaacgagagg acagcaagtg 60
 acactgagct gctcccttat ctctgggcat aggagtgtat cctgggtacca acagacccca 120
 ggacagggcc ttcagttcct ctttgaatac ttcagtgaga cacagagaaa caaaggaaac 180
 ttccctgggc gattctcagg gcgccagttc tctaactctc gctctgagat gaatgtgagc 240
 accttggagc tgggggactc ggccctttat ctttgcccca gcagcttcga cagcgggaat 300
 tcaccctcc actttgggaa cgggaccagg ctcaactgtga cagaggacct gaacaagggtg 360
 ttcccaccog aggtcgctgt gtttgagcca tcagaagcag agatctccca cacccaaaag 420
 gccacactgg tgtgectggc cacaggcttc ttccctgacc acgtggagct gagctgggtgg 480

```

gtgaatggga aggaggtgca cagtggggtc agccaggacc cgcagcccct caaggagcag 540
cccgccctca atgactccag atacagcctg agcagccgcc tgaggggtctc ggccaccttc 600
tggcagaacc cccgcaacca cttccgctgt caagtccagt tctacgggct ctcggagaat 660
gacgagtgga cccaggatag ggccaaacct gtcaccaga tcgtcagcgc cgaggcctgg 720
ggtagagcag acccgggggg tctgactgat acactccaag cggagacaga tcaacttgaa 780
gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa ggaaaaacta 840
gagttcatcc tggcagctta ctag                                     864

```

<210> 61

<211> 287

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Amino acid
sequence of soluble H2-Db/Influenza virus
nucleoprotein restricted TCR beta chain from the
murine P5 receptor, as fused to the c-fos leucine
zipper.

<400> 61

```

Met Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys Thr Arg
 1                      5                      10                      15

Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His Arg Ser
                20                      25                      30

Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe Leu Phe
 35                      40                      45

Glu Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro Gly Arg
 50                      55                      60

Phe Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn Val Ser
 65                      70                      75                      80

Thr Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Phe
                85                      90                      95

Asp Ser Gly Asn Ser Pro Leu His Phe Gly Asn Gly Thr Arg Leu Thr
 100                      105                      110

Val Thr Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val Ala Val Phe
 115                      120                      125

Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val
 130                      135                      140

Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp
 145                      150                      155                      160

Val Asn Gly Lys Glu Val His Ser Gly Val Ser Gln Asp Pro Gln Pro
 165                      170                      175

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Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ser Leu Ser Ser
 180 185 190
 Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe
 195 200 205
 Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr
 210 215 220
 Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp
 225 230 235 240
 Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr
 245 250 255
 Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn
 260 265 270
 Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr
 275 280 285

<210> 62
 <211> 747
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: DNA sequence
 of soluble HLA-A2/HIV-1 Gag restricted TCR alpha
 chain from patient 003, as fused to the leucine
 zipper domain of human c-jun.

<400> 62
 atgaaacaag aagttacaca gattcctgca gctctgagtg tcccagaagg agaaaacttg 60
 gttctcaact gcagttttcac tgatagcgct atttacaacc tccagtgggt taggcaggac 120
 cctgggaaaag gtctcacatc tctgttgctt attcagtcaa gtcagagaga gcaaacaagt 180
 ggaagactta atgcctcgct ggataaatca tcaggacgta gtactttata cattgcagct 240
 tctcagcctg gtgactcagc cacctacctc tgtgetgtga ccaacttcaa caaatTTTtac 300
 tttggatctg ggaccaaact caatgtaaaa ccaaatatcc agaaccctga cctggccgtg 360
 taccagctga gagactctaa atccagtgc aagtctgtct gcctattcac cgattttgat 420
 tctcaaacaa atgtgtcaca aagtaaggat tctgatgtgt atatcacaga caaaactgtg 480
 cttagacatga ggtctatgga cttcaagagc aacagtgtgt tggcctggag caacaaatct 540
 gactttgcat gtgcaaacgc cttcaacaac agcattattc cagaagacac cttcttcccc 600
 agcccagaaa gttcccccg gggtagaatc gcccggtgtg aggaaaaagt gaaaaccttg 660
 aaagctcaga actcggagct ggcgtccacg gccaacatgc tcagggaaca ggtggcacag 720
 cttaaacaga aagtcattgaa ctactag 747

<210> 63
 <211> 248
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid sequence of soluble HLA-A2/HIV-1 Gag restricted TCR alpha chain from patient 003, as fused to the leucine zipper domain of human c-jun.

<400> 63

Met Lys Gln Glu Val Thr Gln Ile Pro Ala Ala Leu Ser Val Pro Glu
1 5 10 15
Gly Glu Asn Leu Val Leu Asn Cys Ser Phe Thr Asp Ser Ala Ile Tyr
20 25 30
Asn Leu Gln Trp Phe Arg Gln Asp Pro Gly Lys Gly Leu Thr Ser Leu
35 40 45
Leu Leu Ile Gln Ser Ser Gln Arg Glu Gln Thr Ser Gly Arg Leu Asn
50 55 60
Ala Ser Leu Asp Lys Ser Ser Gly Arg Ser Thr Leu Tyr Ile Ala Ala
65 70 75 80
Ser Gln Pro Gly Asp Ser Ala Thr Tyr Leu Cys Ala Val Thr Asn Phe
85 90 95
Asn Lys Phe Tyr Phe Gly Ser Gly Thr Lys Leu Asn Val Lys Pro Asn
100 105 110
Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys Ser
115 120 125
Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr Asn
130 135 140
Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr Val
145 150 155 160
Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala Trp
165 170 175
Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser Ile
180 185 190
Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly Gly
195 200 205
Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln Asn
210 215 220
Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala Gln
225 230 235 240
Leu Lys Gln Lys Val Met Asn Tyr
245

<210> 64
 <211> 864
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: DNA sequence
 of soluble HLA-A2/HIV-1 Gag restricted TCR beta
 chain from patient 003, as fused to the leucine
 zipper domain of human c-fos.

<400> 64
 atgaaagctg gagttactca aactccaaga tatctgatca aaacgagagg acagcaagtg 60
 aactgagct gctcccctat ctctgggcat aggagtgtat cctggtacca acagacccca 120
 ggacagggcc ttcagttcct ctttgaatac ttcagtgaga cacagagaaa caaaggaaac 180
 ttccctggtc gattctcagg gcgccagttc tctaactctc gctctgagat gaatgtgagc 240
 accttggagc tgggggactc ggccctttat ctttgcgcca gcagcttcga cagcgggaat 300
 tcaccctcc actttgggaa cgggaccagg ctactgtga cagaggacct gaacaagggtg 360
 ttcccaccgc aggtcgctgt gtttgagcca tcagaagcag agatctccca cacccaaaag 420
 gccacactgg tgtgcctggc cacaggcttc ttccctgacc acgtggagct gagctggtgg 480
 gtgaatggga aggaggtgca cagtggggtc agccaggacc cgcagcccct caaggagcag 540
 cccgccctca atgactccag atacagcctg agcagccgcc tgagggtctc ggccaccttc 600
 tggcagaacc cccgcaacca cttccgctgt caagtccagt tctacgggct ctcgagaaat 660
 gacgagtgga cccaggatag ggccaaacct gtcacccaga tcgtcagcgc cgaggcctgg 720
 ggtagagcag accccggggg tctgactgat aactccaag cggagacaga tcaacttgaa 780
 gacaagaagt ctgcgttgca gaccgagatt gccaatctac tgaaagagaa ggaaaaacta 840
 gagtcatcc tggcagctta ctac 864

<210> 65
 <211> 287
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Amino acid
 sequence of soluble HLA-A2/HIV-1 Gag restricted
 TCR beta chain from patient 003, as fused to the
 leucine zipper domain of human c-fos.

<400> 65
 Met Lys Ala Gly Val Thr Gln Thr Pro Arg Tyr Leu Ile Lys Thr Arg
 1 5 10 15
 Gly Gln Gln Val Thr Leu Ser Cys Ser Pro Ile Ser Gly His Arg Ser
 20 25 30
 Val Ser Trp Tyr Gln Gln Thr Pro Gly Gln Gly Leu Gln Phe Leu Phe
 35 40 45
 Glu Tyr Phe Ser Glu Thr Gln Arg Asn Lys Gly Asn Phe Pro Gly Arg
 50 55 60
 Phe Ser Gly Arg Gln Phe Ser Asn Ser Arg Ser Glu Met Asn Val Ser

65	70	75	80
Thr Leu Glu Leu Gly Asp Ser Ala Leu Tyr Leu Cys Ala Ser Ser Phe	85	90	95
Asp Ser Gly Asn Ser Pro Leu His Phe Gly Asn Gly Thr Arg Leu Thr	100	105	110
Val Thr Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val Ala Val Phe	115	120	125
Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val	130	135	140
Cys Leu Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp	145	150	155
Val Asn Gly Lys Glu Val His Ser Gly Val Ser Gln Asp Pro Gln Pro	165	170	175
Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ser Leu Ser Ser	180	185	190
Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe	195	200	205
Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr	210	215	220
Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp	225	230	235
Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr	245	250	255
Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn	260	265	270
Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr	275	280	285

<210> 66

<211> 750

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA sequence
of soluble HLA-A2/HTLV-1 Tax restricted TCR alpha
chain from clone A6, as fused to the leucine
zipper domain of c-jun.

<400> 66

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atgcagaagg aagtggagca gaactctgga cccctcagtg ttccagaggg agccattgcc 60
tctctcaact gcacttacag tgaccgaggt tcccagtcct tcttctggta cagacaatat 120
tctgggaaaa gccctgagtt gataatgtcc atatactcca atgggtgacaa agaagatgga 180
aggtttacag cacagctcaa taaagccagc cagtatgttt ctctgctcat cagagactcc 240
cagcccagtg attcagccac ctacctctgt gccgttacaa ctgacagctg ggggaaattg 300
cagtttggag cagggaccca ggttgtggtc accccagata tccagaaccc tgaccctgcc 360
gtgtaccagc tgagagactc taaatccagt gacaagtctg tctgcctatt caccgatttt 420
gattctcaaa caaatgtgtc acaaagtaag gattctgatg tgtatatcac agacaaaact 480
gtgctagaca tgaggtctat ggacttcaag agcaacagtg ctgtggcctg gagcaacaaa 540
tctgactttg catgtgcaaa cgccttcaac aacagcatta ttccagaaga caccttcttc 600
cccagcccag aaagttcccc cgggggtaga atcgcccggc tggaggaaaa agtgaaaacc 660
ttgaaagctc agaactcgga gctggcgtcc acggccaaca tgctcaggga acaggtggca 720
cagcttaaac agaaagtcac gaactactag 750

```

<210> 67

<211> 249

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence of soluble HLA-A2/HTLV-1 Tax restricted TCR alpha chain from clone A6, as fused to the leucine zipper domain of c-jun.

<400> 67

```

Met Gln Lys Glu Val Glu Gln Asn Ser Gly Pro Leu Ser Val Pro Glu
  1                      5                      10                      15

Gly Ala Ile Ala Ser Leu Asn Cys Thr Tyr Ser Asp Arg Gly Ser Gln
          20                      25                      30

Ser Phe Phe Trp Tyr Arg Gln Tyr Ser Gly Lys Ser Pro Glu Leu Ile
    35                      40                      45

Met Ser Ile Tyr Ser Asn Gly Asp Lys Glu Asp Gly Arg Phe Thr Ala
    50                      55                      60

Gln Leu Asn Lys Ala Ser Gln Tyr Val Ser Leu Leu Ile Arg Asp Ser
    65                      70                      75                      80

Gln Pro Ser Asp Ser Ala Thr Tyr Leu Cys Ala Val Thr Thr Asp Ser
          85                      90                      95

Trp Gly Lys Leu Gln Phe Gly Ala Gly Thr Gln Val Val Val Thr Pro
    100                      105                      110

Asp Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser Lys
    115                      120                      125

Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln Thr
    130                      135                      140

Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys Thr

```

145	150	155	160
Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val Ala			
	165	170	175
Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn Ser			
	180	185	190
Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Pro Gly			
	195	200	205
Gly Arg Ile Ala Arg Leu Glu Glu Lys Val Lys Thr Leu Lys Ala Gln			
	210	215	220
Asn Ser Glu Leu Ala Ser Thr Ala Asn Met Leu Arg Glu Gln Val Ala			
	225	230	235
			240
Gln Leu Lys Gln Lys Val Met Asn Tyr			
	245		

<210> 68
 <211> 928
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: DNA sequence
 of soluble HLA-A2/HTLV-1 Tax restricted TCR beta
 chain from clone A6, as fused to the leucine
 zipper domain of c-fos and a BirA biotinylation
 tag.

<400> 68
 atgaacgctg gtgtcactca gacccccaaaa ttccaggtcc tgaagacagg acagagcatg 60
 aactgcagt gtgcccagga tatgaaccat gaatacatgt cctgggtatcg acaagaccca 120
 ggcatggggc tgaggctgat tcattactca gttgggtgctg gtatcactga ccaaggagaa 180
 gtccccaatg gctacaatgt ctccagatca accacagagg atttcccgtc caggctgctg 240
 tcggctgctc cctcccagac atctgtgtac ttctgtgcca gcaggccggg actagcggga 300
 gggcgaccag agcagtactt cgggcccgggc accagggtca cggtcacaga ggacctgaaa 360
 aacgtgttcc cacccgaggt cgctgtgttt gagccatcag aagcagagat ctccacacc 420
 caaaaggcca cactggtgtg cctggccaca ggcttctacc cggaccacgt ggagctgagc 480
 tgggtgggtga atgggaagga ggtgcacagt ggggtcagca cagaccgca gccctcaag 540
 gagcagcccg ccctcaatga ctccagatac gctctgagca gccgcctgag ggtctcggcc 600
 accttctggc agaacccccg caaccacttc cgctgtcaag tccagttcta cgggctctcg 660
 gagaatgacg agtggaccca ggatagggcc aaacctgtca cccagatcgt cagcgccgag 720
 gcctggggta gagcagaccc cgggggtctg actgatacac tccaagcgga gacagatcaa 780
 cttgaagaca agaagtctgc gttgcagacc gagattgcca atctactgaa agagaaggaa 840
 aaactagagt tcatcctggc agcttacgga tccgggtggtg gtctgaacga tatttttgaa 900
 gctcagaaaa tcgaatggca ttaagctt 928

<210> 69
 <211> 307

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid sequence of soluble HLA-A2/HTLV-1 Tax restricted TCR beta chain from clone A6, as fused to the leucine zipper domain of c-fos and a BirA biotinylation ta

<400> 69

Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln Val Leu Lys Thr
1 5 10 15

Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr
20 25 30

Met Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His
35 40 45

Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly
50 55 60

Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu
65 70 75 80

Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Arg Pro
85 90 95

Gly Leu Ala Gly Gly Arg Pro Glu Gln Tyr Phe Gly Pro Gly Thr Arg
100 105 110

Leu Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala
115 120 125

Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr
130 135 140

Leu Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser
145 150 155 160

Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro
165 170 175

Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu
180 185 190

Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn
195 200 205

His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu
210 215 220

Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu
225 230 235 240

Ala Trp Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala
245 250 255

Glu Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile
260 265 270

Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala
275 280 285

Tyr Gly Ser Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile
290 295 300

Glu Trp His
305

<210> 70
<211> 765
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Sequence of
soluble HLA-A2/HTLV-1 Tax restricted TCR alpha
chain from clone M10B7/D3, as fused to the leucine
zipper domain of c-jun.

<400> 70
atgcaacaga agaatgatga ccagcaagtt aagcaaaatt caccatccct gagcgtccag 60
gaaggaagaa tttctattct gaactgtgac tatactaaca gcatgtttga ttatttccta 120
tggtacaaaa aataccctgc tgaaggctct acattcctga tatctataag ttccattaag 180
gataaaaatg aagatggaag attcactgtc ttcttaaaca aaagtgccaa gcacctctct 240
ctgcacattg tgccctccca gcctggagac tctgcagtgt acttctgtgc agcaatggag 300
ggagcccaga agctggtatt tggccaagga accaggctga ctatcaaccc aaatatccag 360
aaccctgacc ctgccgtgta ccagctgaga gactctaaat ccagtgacaa gtctgtctgc 420
ctattcaccg attttgattc tcaaacaaat gtgtcacaaa gtaaggattc tgatgtgtat 480
atcacagaca aaactgtgct agacatgagg tctatggact tcaagagcaa cagtgtctgtg 540
gcctggagca acaaactctga ctttgcattg gcaaacgcct tcaacaacag cattattcca 600
gaagacacct tcttccccag cccagaaagt tccccgggg gtagaatcgc ccggctggag 660
gaaaaaagtga aaaccttgaa agctcagaac tggagctgg cgtccacggc caacatgctc 720
agggaacagg tggcacagct taaacagaaa gtcatgaact actag 765

<210> 71
<211> 254
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Sequence of
soluble HLA-A2/HTLV-1 Tax restricted TCR alpha
chain from clone M10B7/D3, as fused to the leucine
zipper domain of c-jun.

<400> 71

Met	Gln	Gln	Lys	Asn	Asp	Asp	Gln	Gln	Val	Lys	Gln	Asn	Ser	Pro	Ser
1				5					10					15	
Leu	Ser	Val	Gln	Glu	Gly	Arg	Ile	Ser	Ile	Leu	Asn	Cys	Asp	Tyr	Thr
			20					25					30		
Asn	Ser	Met	Phe	Asp	Tyr	Phe	Leu	Trp	Tyr	Lys	Lys	Tyr	Pro	Ala	Glu
		35					40					45			
Gly	Pro	Thr	Phe	Leu	Ile	Ser	Ile	Ser	Ser	Ile	Lys	Asp	Lys	Asn	Glu
	50					55					60				
Asp	Gly	Arg	Phe	Thr	Val	Phe	Leu	Asn	Lys	Ser	Ala	Lys	His	Leu	Ser
65					70					75				80	
Leu	His	Ile	Val	Pro	Ser	Gln	Pro	Gly	Asp	Ser	Ala	Val	Tyr	Phe	Cys
				85					90					95	
Ala	Ala	Met	Glu	Gly	Ala	Gln	Lys	Leu	Val	Phe	Gly	Gln	Gly	Thr	Arg
		100						105					110		
Leu	Thr	Ile	Asn	Pro	Asn	Ile	Gln	Asn	Pro	Asp	Pro	Ala	Val	Tyr	Gln
		115					120					125			
Leu	Arg	Asp	Ser	Lys	Ser	Ser	Asp	Lys	Ser	Val	Cys	Leu	Phe	Thr	Asp
	130					135					140				
Phe	Asp	Ser	Gln	Thr	Asn	Val	Ser	Gln	Ser	Lys	Asp	Ser	Asp	Val	Tyr
145					150					155				160	
Ile	Thr	Asp	Lys	Thr	Val	Leu	Asp	Met	Arg	Ser	Met	Asp	Phe	Lys	Ser
			165					170						175	
Asn	Ser	Ala	Val	Ala	Trp	Ser	Asn	Lys	Ser	Asp	Phe	Ala	Cys	Ala	Asn
		180						185					190		
Ala	Phe	Asn	Asn	Ser	Ile	Ile	Pro	Glu	Asp	Thr	Phe	Phe	Pro	Ser	Pro
		195					200					205			
Glu	Ser	Ser	Pro	Gly	Gly	Arg	Ile	Ala	Arg	Leu	Glu	Glu	Lys	Val	Lys
	210					215					220				
Thr	Leu	Lys	Ala	Gln	Asn	Ser	Glu	Leu	Ala	Ser	Thr	Ala	Asn	Met	Leu
225					230					235				240	
Arg	Glu	Gln	Val	Ala	Gln	Leu	Lys	Gln	Lys	Val	Met	Asn	Tyr		
			245					250							

<210> 72

<211> 925

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA sequence of soluble HLA-A2/HTLV-1 Tax restricted TCR beta chain from clone M10B7/D3, as fused to the leucine zipper domain of c-fos and a BirA biotinylation tag

<400> 72

```
atgaacgctg gtgtcactca gacccccaaaa ttccaggtcc tgaagacagg acagagcatg 60
acactgcagt gtgcccagga tatgaaccat gaatacatgt cctggatcgc acaagaccca 120
ggcatggggc tgaggctgat tcattactca gttgggtgctg gtatcactga ccaaggagaa 180
gtccccaatg gctacaatgt ctccagatca accacagagg atttcccgct caggctgctg 240
tcggtgctc cctcccagac atctgtgtac ttctgtgcca gcagttacca ggaggggggg 300
ttttacgagc agtacttcgg gccgggcacc aggtcacgg tcacagagga cctgaaaaaac 360
gtgttccac ccgaggcgc tgtgtttgag ccatcagaag cagagatctc ccacacccaa 420
aaggccacac tgggtgtgct gccacaggc ttctaccccg accacgtgga gctgagctgg 480
tggtgtaatg ggaaggaggt gcacagtggg gtcagcacag acccgagcc cctcaaggag 540
cagcccgccc tcaatgactc cagatacgtc ctgagcagcc gcctgagggt ctcgccacc 600
ttctggcagg acccccgcaa ccacttcgc tgtcaagtcc agttctacgg gctctcggag 660
aatgacgagt ggaccagga tagggccaaa cccgtcaccc agatcgtcag cgccgaggcc 720
tggtgtagag cagaccccg gggtctgact gatacactcc aagcggagac agatcaactt 780
gaagacaaga agtctgcgtt gcagaccgag attgccaatc tactgaaaga gaaggaaaaa 840
ctagagttca tctgtgcagc ttacggatcc ggtggtggtc tgaacgatat ttttgaagct 900
cagaaaatcg aatggcatta agctt 925
```

<210> 73

<211> 306

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence of soluble HLA-A2/HTLV-1 Tax restricted TCR beta chain from clone M10B7/D3, as fused to the c-fos leucine zipper domain and a BirA biotinylation tag.

<400> 73

```
Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln Val Leu Lys Thr
  1             5             10             15

Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr
          20             25             30

Met Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His
          35             40             45

Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly
          50             55             60

Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu
          65             70             75             80

Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Ser Tyr
```


85					90					95				
Pro Gly Gly Gly Phe Tyr Glu Gln Tyr Phe Gly Pro Gly Thr Arg Leu	100	105	110											
Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala Val	115	120	125											
Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu	130	135	140											
Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser Trp	145	150	155	160										
Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro Gln	165	170	175											
Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu Ser	180	185	190											
Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asp Pro Arg Asn His	195	200	205											
Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp	210	215	220											
Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala	225	230	235	240										
Trp Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu	245	250	255											
Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala	260	265	270											
Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr	275	280	285											
Gly Ser Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu	290	295	300											
Trp His	305													

<210> 74

<211> 928

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mutated
sequence of soluble HLA-A2/HTLV-1 Tax restricted
TCR beta chain from clone A6, as fused to the

c-fos leucine zipper domain and a BirA
biotinylation tag.

<400> 74

```

atgaacgctg gtgtcactca gaccccaaaa ttccagggtcc tgaagacagg acagagcatg 60
acactgcagt gtgcccagga tatgaaccat gaatacatgt cctgggtatcg acaagaccca 120
ggcatggggc tgaggctgat tcattactca gttgggtgctg gtatcactga ccaaggagaa 180
gtccccaatg gctacaatgt ctccagatca accacagagg atttcccgtc caggctgctg 240
tcggctgctc cctcccagac atctgtgtac ttctgtgcca gcaggccggg actagcggga 300
gggcgaccag agcagtactt cgggcccggg accaggctca cggtcacaga ggacctgaaa 360
aacgtgttcc cacccgaggt cgctgtgttt gagccatcag aagcagagat ctcccacacc 420
caaaaggcca cactgggtgtg cctggccaca ggcttctacc ccgaccacgt ggagctgagc 480
tggtgggtga atgggaagga ggtgcacagt ggggtcagca cagaccgcga gccctcaag 540
gagcagcccg ccctcaatga ctccagatac gctctgagca gccgcctgag ggtctcggcc 600
accttctggc aggacccccg caaccacttc cgctgtcaag tccagttcta cgggctctcg 660
gagaatgacg agtggaccca ggatagggcc aaacctgtca cccagatcgt cagcgccgag 720
gcctggggta gagcagaccc cgggggtctg actgatacac tccaagcgga gacagatcaa 780
cttgaagaca agaagtctgc gttgcagacc gagattgcca atctactgaa agagaaggaa 840
aaactagagt tcctctggc agcttacgga tccgggtggtg gtctgaacga tatttttgaa 900
gctcagaaaa tcgaatggca ttaagctt                                     928

```

<210> 75

<211> 307

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence of
mutated soluble HLA-A2/HTLV-1 Tax restricted TCR
beta chain from clone A6, as fused to the c-fos
leucine zipper domain and a BirA biotinylation
tag.

<400> 75

```

Met Asn Ala Gly Val Thr Gln Thr Pro Lys Phe Gln Val Leu Lys Thr
  1              5              10             15

Gly Gln Ser Met Thr Leu Gln Cys Ala Gln Asp Met Asn His Glu Tyr
      20              25              30

Met Ser Trp Tyr Arg Gln Asp Pro Gly Met Gly Leu Arg Leu Ile His
      35              40              45

Tyr Ser Val Gly Ala Gly Ile Thr Asp Gln Gly Glu Val Pro Asn Gly
      50              55              60

Tyr Asn Val Ser Arg Ser Thr Thr Glu Asp Phe Pro Leu Arg Leu Leu
      65              70              75              80

Ser Ala Ala Pro Ser Gln Thr Ser Val Tyr Phe Cys Ala Ser Arg Pro
      85              90              95

Gly Leu Ala Gly Gly Arg Pro Glu Gln Tyr Phe Gly Pro Gly Thr Arg
      100             105             110

```

Leu Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu Val Ala
 115 120 125
 Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr
 130 135 140
 Leu Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu Leu Ser
 145 150 155 160
 Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr Asp Pro
 165 170 175
 Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Ala Leu
 180 185 190
 Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asp Pro Arg Asn
 195 200 205
 His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu
 210 215 220
 Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu
 225 230 235 240
 Ala Trp Gly Arg Ala Asp Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala
 245 250 255
 Glu Thr Asp Gln Leu Glu Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile
 260 265 270
 Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala
 275 280 285
 Tyr Gly Ser Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile
 290 295 300
 Glu Trp His
 305

<210> 76

<211> 190

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA sequence
 of the c-fos/BirA biotinylation tag fusion partner
 used for TCR beta chains.

<400> 76

cccggggggtc tgactgatac actccaagcg gagacagatc aacttgaaga caagaagtct 60
 gcgttgacaga ccgagattgc caatctactg aaagagaagg aaaaactaga gttcatcctg 120
 gcagcttacg gatccggtgg tggtctgaac gatatttttg aagctcagaa aatcgaatgg 180

cattaagctt

190

<210> 77

<211> 61

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence of the c-fos/BirA biotinylation tag fusion partner used for TCR beta chains.

<400> 77

Pro Gly Gly Leu Thr Asp Thr Leu Gln Ala Glu Thr Asp Gln Leu Glu
1 5 10 15

Asp Lys Lys Ser Ala Leu Gln Thr Glu Ile Ala Asn Leu Leu Lys Glu
20 25 30

Lys Glu Lys Leu Glu Phe Ile Leu Ala Ala Tyr Gly Ser Gly Gly Gly
35 40 45

Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His
50 55 60

<210> 78

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Reverse primer used for PCR amplification of the Vbeta-c-fos leucine zipper fragment of the Influenza matrix peptide/HLA-A0201 restricted human JM22 TCR fusion gene

<400> 78

acacacggat ccgtaagctg cgacgatgaa ctcgattttc tt

42

<210> 79

<211> 90

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer for PCR amplification of the human Vbeta17 chain of the JM22 TCR fused to the Bir biotinylation tag.

<400> 79

gggggaagct taatgccatt cgattttctg agcttcaaaa atatcggtca gaccaccacc 60
ggatccgtaa gctgccagga tgaactctag 90

<210> 80
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer for PCR
amplification of the human Vbeta17 chain of the
JM22 TCR fused to the Bir biotinylation tag.

<400> 80
gctctagaca tatgggcca gtggattctg gagtcac 37

<210> 81
<211> 9
<212> PRT
<213> Human immunodeficiency virus

<220>
<223> Peptide derived from the HIV-1 Reverse
Transcriptase protein and presented as peptide
antigen by HLA-A0201.

<400> 81
Ile Leu Lys Glu Pro Val His Gly Val
1 5

<210> 82
<211> 9
<212> PRT
<213> Human T-cell lymphotropic virus type 1

<220>
<223> Peptide derived from the HTLV-1 Tax protein and
presented as peptide antigen by HLA-A0201. This
HLA/peptide combination restricts the A6 and B7
TCRs.

<400> 82
Leu Leu Phe Gly Tyr Pro Val Tyr Val
1 5

<210> 83
<211> 9
<212> PRT
<213> Influenza virus

<220>

<223> Peptide derived from Influenza virus nucleoprotein and presented as peptide antigen by the murine H2-Db. This MHC/peptide combination restricted the murine F5 TCR.

<400> 83

Ala Ser Asn Glu Asn Met Asp Ala Met

1

5

<210> 84

<211> 9

<212> PRT

<213> Influenza virus

<220>

<223> Peptide derived from Influenza virus Matrix protein and presented as peptide antigen by HLA-A0201. This HLA/peptide combination restricted the JM22TCR.

<400> 84

Gly Ile Leu Gly Phe Val Phe Thr Leu

1

5

<210> 85

<211> 9

<212> PRT

<213> Human immunodeficiency virus

<220>

<223> Peptide derived from HIV-1 Gag protein and presented as peptide antigen by HLA-A0201. This HLA/peptide combination restrictes the TCR cloned from patient 003.

<400> 85

Ser Leu Tyr Asn Thr Val Ala Thr Leu

1

5